

BERKA, I., RNDr.

Microclimate, dust and noise in the building material industry.  
Stavivo 42 no.9:344-347 S '64.

1. Laboratories of Industrial Hygiene, Regional Station of  
Hygiene and Epidemiology, Brno.

BERKA, Ivan; HRONADA, Jan; KREJSLER, Herman.

Heat exposure of glasmakers in manual and semiautomatic plants.  
Prac. lek. 16 no. 98400-403 N ' 64

1. Odbor hygiény práce Krajskej hygienicko-epidemiologickej stanice Jihomoravského kraje v Brne (vedoucí MUDr. K. Spazier), Spazier, Skloprojekt, n.p., Praha, a ROH-UVOS zaměstancu spotřebního průmyslu, Praha.

BERKA, Ivan, RNDr.,(Brno, Pellicova 29)

Organic microfiber filters for measurements in mines and textile factories. Prac. lek. 17 no.7:310-313 S '65.

1. Odbor hygieny prace Krajske hygienicko-epidemiologicke stanicy v Brne (vedouci MUDr. K. Spazier).

L 18144-66

EWT(1)

SCTB DD

ACC NR: AP6010367

SOURCE CODE: 67/0032/65/015/011/0233/0838

AUTHOR: Berka, I. (Doctor of natural sciences)

ORG: Regional Public Health and Epidemiology Station, Brno (Krajska hygienicko-epidemiologicka stanice) Z/

TITLE: Noise in engineering works

SOURCE: Strojirenstvi, v. 15, no. 11, 1965, 833-838

TOPIC TAGS: acoustic noise, acoustic biologic effect

ABSTRACT: After a brief introduction dealing with the extremely dangerous and harmful effects of noise upon human health and methods employed to measure the intensity and spectrum of noise and with the principal acoustic units, the article analyzes the results of inspections carried out in several engineering works in the Brno district. The situation is far from satisfactory and the noise level in very many shops exceeds the tolerable limits. The character of the noise also is extremely unfavorable. This paper was presented by J. Nemec, Engineer, Doctor. Orig. art. has: 8 figures and 7 tables. [JPRS]

SUB CODE: 20, 06 / SUEN DATE: none / ORIG REF: 010

Card 1/1 77005

UDC: 621.8-758.34 : 534.83 : 622.517

CZECHOSLOVAKIA

UDC 613.63:614.715

BERKA, Ivan; POSPILOVA, Eva; Department of Work Hygiene, Krajska Station of Hygiene and Epidemiology of the Kraj of South Moravia (Odbor Hygiény Prace KHES Jihomoravského Kraje), Brno, Head (Vedoucí) Dr K. SPAZIER.

"Concentration of Toluylidiisocyanide in the Atmosphere in the Production of Polyurethane Elastic Foams."

Prague, Pracovní Lekarství, Vol 18, No 6 - 7, Aug 66, pp 301-304

Abstract /Authors' English summary modified 7: Measurements of the concentrations of toluylidiisocyanide (TDI) vapors in the atmosphere of a pilot plant installation were made by the Marcali and Ranta Method. An average of 50 micrograms per liter of air was found; at the outlet of the drying tunnel the concentration was 100 micrograms. By an improvement in the ventilation system the concentrations were brought down to 0.14 micrograms/liter of air, which is an acceptable value. The only noxious effects observed were irritations of the eyes and nasopharynx. 2 Figures, 10 Western, 7 Czech references. (Manuscript received 16 Jul 65).

1/1

CZECHOSLOVAKIA

UDC 614.715(541.1823)-074.542.67

BERKA, Ivan; Department of Hygiene of Work, Krajska Station of  
Hygiene and Epidemiology of the Kraj of South Moravia (Odbor Hy-  
giény Prace KHES Jihomoravského Kraje), Brno, Head (Vedoucí) Dr.  
K. SPAZIER

"Gravimetric Determination of Dust Concentration by Filters Made  
of Organic Microfibers."

Prague, Pracovní Lekarství, Vol 19, No 2, Mar 67, pp 67 - 70

Abstract [Author's English summary modified]: Properties of filter materials prepared from materials produced at the W. Pieck Chemical Enterprises at Hnust-Likier were investigated. The material is suitable for operation at 80°C; the weight of the cloth is constant within + 10%, and the pressure drop 30 - 75 kg/m sq at a rate of flow of 10 liters/min over an area of 7 cm sq. The cloth remains hygroscopic even after treatment with a hydrophobic solution. For coal dust the filtration efficiency is +99%, for textile, foundry, and ceramic dust + 95%. 3 Figures, 2 Tables, 1 Czech reference. (Manuscript received 8 Jan 66).  
1/1

SOLC,J.; BERKA,J.; TOMICEK,J.

Pressure syringe for angiography. Cesk. rentgen. 18 no.3:  
214-215 My'64

1. Rentganologicke oddeleni nemocnice v Semilech; Technometra,  
n.p. v Semilech.

\*

BERKA, Josef, inz.; RAISIGL, Jiri

Transportation of the batch to the glass tanks by vibration  
conveyers. Sklar a keramik 14 no. 1: 3-7 Ja '64.

1. Sklarny Moravia, n.p., Kyjov.

BERKA, Josef, inz.; PAZDERA, Jaroslav

Twenty-two-meter span glued roof truss. Poz stavby 12 no. 9: 378-380  
'64.

1. Secondary Industrial School for Building, Prostejov (for Berka).
2. Pozemni stavby Olomouc, Carpentry Plant, Plumlov (for Pazdera).

BERKA, J.

More on the National Conference of Mechanizers. p. 194. (Mechanisace Zemědělství,  
Vol. 7, No. 9, May 1957, Praha, Czechoslovakia)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, No. 8, Aug 1957. Unc].

"APPROVED FOR RELEASE: 06/08/2000

CIA-RDP86-00513R000204920011-2

BERKA, J.

What is discussed today in our machine-tractor station? p.250.  
(Mechanisace Zemedelstvi, Vol. 7, No. 11, June 1957, Praha, Czechoslovakia)

SO: Monthly List of East European Accessiors (EEAL) LC. Vol. 6, No. 9, Sept. 1957. Uncl.

APPROVED FOR RELEASE: 06/08/2000

CIA-RDP86-00513R000204920011-2"

BERKA, J. Dr. Mr.

Semiquantitative determination of blood carbon monoxide. Pracovni lek.  
9 no. 4:301-304 Sept 57.

1. Ze technicke spoluprace Jarmily Jaskove. Laboratorie hygieny prace  
KOMS v Brne.  
(CARBON MONOXIDE, in blood  
semiquantitative determ. (Cs))

"APPROVED FOR RELEASE: 06/08/2000

CIA-RDP86-00513R000204920011-2

APPROVED FOR RELEASE: 06/08/2000

CIA-RDP86-00513R000204920011-2"

CZECHOSLOVAKIA/Chemical Technology. Chemical  
Products and Their Applications.  
Water Treatment. Sewage.

H-5

Abs Jour : Ref Zhur-Khimiya, No 7, 1959, 23804

Author : Berka, J., Hadek, J., Hlavikova, Ye.,  
Jelinek, V., Novak, Z.

Inst :

Title : Investigation of Operation of the Quick  
Acting Sand Filters.

Orig Pub : Voda, 1956, 35, No 12, 382-387

Abstract : The investigation was conducted on a semi-  
commercial scale. Filters (F) had areas of  
 $1 \times 1 \text{ m}$  and  $0.1 \times 0.1 \text{ m}$  and were equipped  
with devices for the removal of water samp-  
les and for the pressure measurements at

Card : 1/2

14 - 21

- CZECHOSLOVAKIA/Chemical Technology. Chemical Products and Their Applications.  
Water Treatment. Sewago.

H-5

Abs Jour : Ref Zhur-Khimiya, No 7, 1959, 23804

varying depths. The coagulation of water was attained with the use of 1 percent  $\text{FeCl}_3 \cdot 6\text{H}_2\text{O}$  solution, introduced in doses of 2.4 mg/l. It was shown that under conditions of adequate mixing of water with reagents prior to filtration, the reagent dosage may be reduced by 60-70 percent. Sediments are retained on F equally well regardless of the impurities characteristics.  
-- S. Yavorovskaya

Card : 2/2

"APPROVED FOR RELEASE: 06/08/2000

CIA-RDP86-00513R000204920011-2

U.S. Army method of tracing Soviet tanks  
is component of an approved process of intelligence  
intelligence. No. 1, 1974, pp. 1-2.

100 100

APPROVED FOR RELEASE: 06/08/2000

CIA-RDP86-00513R000204920011-2"

SMUTNY, Zikmund; BERKA, Karol

Information on the Mikova pagnesite deposit from the viewpoint of  
its use for clinker brick production. Rudy 11 no.8:245-247 Ag '63.

1. Vyzkumny ustav pre hutnicku keramiku, Bratislava.

"APPROVED FOR RELEASE: 06/08/2000

CIA-RDP86-00513R000204920011-2

BERKA, Ladislav, inz.

"Calculation of grills with regard to their torsion" by R.  
Bares. Reviewed by Ladislav Berka. Stav cas 11 no.8:531-532  
'63.

APPROVED FOR RELEASE: 06/08/2000

CIA-RDP86-00513R000204920011-2"

BERKA, M.

BERKA, M. Determining the contents of accumulation basins of the pumping stations  
for rain water. p. 69, Vol 5, no. 1, 1956  
SOVETSKA VEDA: STAVEBNICTVI  
Praha, Czechoslovakia

SOURCE: EAST EUROPEAN ACCESSIONS LIST (EEAL) VOL 6 NO 4 APRIL 1957

J

P/014/60/039/011/005/009  
A221/A026

AUTHORS: Tuszyński, Kazimierz; Berka, Mieczysław

TITLE: Mathematical Computers in Chemistry

PERIODICAL: Przemysł Chemiczny, 1960, Vo. 39, No. 11, pp. 684 - 688

TEXT: In this article the authors outline the principles on which the application of analog and digital computers for control of technological processes are based. In the introduction they explain the difference between these two types of computers and what kind of work they can perform. One of the important differences is that for more complicated problems analog computers of larger size have to be used which, however, tend to lose accuracy, while size and properties of digital computers remain stable. At present, mathematical computers are more and more used for calculation of problems in chemical industry. As an example, the authors quote that in the Du Pont Company, USA, about 50% of heat-exchange calculations are performed by such machines. In order to characterise the scope of mathematical computers, the authors list several problems which can be solved by them. Analog computers can deal with problems of sedimentation, mixing of liquids, heat flow, kinetics of chemical reactions, modelling of automatic control circuits, distillation, etc. Digital computers are more universal and can be used for calculation of proc-

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Card 1/2

Mathematical Computers in Chemistry

P/014/60/039/011/005/009  
A221/A026

esses, installations and even economic problems. They can deal with the following problems: calculation of the minimum degree of "deflegmation" (deflegmacj1), chemical equilibria for multi-component systems, thermal cracking of hydrocarbons, alkylation in multi-stage reactors, calculation of distillation columns, reactors, pipe lines, heat exchangers, etc. From these calculations the application of computers for process control was the next logical step. If the machine can calculate in a very short time the optimum value of dependent variables of the process, it is only necessary to adjust the output signals in such a way that they can directly affect the instruments controlling the parameters. The practical application principles are explained. For illustration of such procedures the authors produce two examples, a very simple one, viz. level regulation in a tank, and a more complicated one, viz. an automatic control of a rectification process. In the conclusion the authors point out that computers can be used only if the plant is fully automated beforehand and has an instrument servicing department, capable of maintaining all instruments in excellent working conditions. There are 3 figures and 1 photo.

ASSOCIATION: Instytut Chemii Ogólnej (General Chemistry Institute) Warsaw

Card 2/2

S/169/62/000/007/071/149  
D228/D307

AUTHOR: Berka, M. K.

TITLE: Calculating the spatial grid resistances when the boundaries between media with different conductivities are complex

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 7, 1962, 32, abstract 7A213 (Uch. zap. Rizhsk. politekhn. in-t, 5, 1961, 39-48)

TEXT: The author describes a method of calculating an integrator's grid resistances near the division of media with different parameters. An analytical expression is derived for determining the magnitude of the resistances, whose axes are situated normal or parallel to the plane dividing the media. For an arbitrary orientation of the planes dividing the media the resistances were determined by modelling in an electrolytic bath the region of replacement of one resistance for the most typical cases of the orientation of the media's division plane. The curves calculated for  $k = f(\sigma/\sigma_0)$  were ✓

Card 1/2

Calculating the spatial ...

S/169/62/000/007/071/149  
D228/D307

constructed from the results of the measurements. Here  $k = r/r_0$ ,  $r$  is the resistance included in the case of two media,  $r_0$  is the base resistance in the case of one medium, and  $\sigma/\sigma_0$  is the ratio of the media's conductivities. The divergence of the results of the experiment and of the analytical calculation does not exceed 2%; this allows the resulting curves to be used for determining the integrator's grid resistances. Comparative calculations of theoretically easily computable fields were made in order to ascertain whether it is expedient to employ the experimental curves for determining the grid resistances. It is established that the calculation of resistances from the experimental curves allows the precision of grid modelling to be increased in the case of extended rectilinear boundaries. *[Abstracter's note: Complete translation.]* ✓

Card 2/2

BERKA, Mieczyslaw; STEPLEWSKI, Bohdan; DRAMINSKA, Krystyna

Studies on the rectification process as a control object. Przem  
chem 42 no.1:41-45 Ja '63.

1. Badawczo-Doswiadczały Ośrodek, Pracownia Pomiarów i Automatyki  
Chemopomiar, i Instytut Chemii Ogólnej, Warszawa.

BERKA, V.

Strangulation by accident. Lek. listy 5:15-16 1 Aug. 50. p. 471-4

1. Of the Institute for Forensic Medicine, Masaryk University in  
Brno (Head—Prof. Josef Kohout, M. D.).

CLNL 19, 5, Nov., 1950

CZECHOSLOVAKIA/Pharmacology and Toxicology. Narcotics

V-1

Abs Jour : Ref Zhur - Biol., No 15, 1958, No 71069

Author : Berka V., Kratky L.

Inst : -

Title : Antabuse and Levels of Volatile Substances in the Blood

Orig Pub : Casop. lekaru ceskych, 1957, 96, No 4, 123-127

Abstract : The effect of antabuse ( $\Lambda$ ) upon fluctuations of the level of the volatile substances in the blood was studied on 12 patients suffering from alcoholism. Determination was effected by Widmark's method. It was found that under the influence of  $\Lambda$  without administration of alcohol, the level of volatile substances in the blood increases up to 0.13-0.35 percent. Following the administration of small amounts of alcohol,  $\Lambda$  was increasing the level of volatile substances in the blood to a greater degree than the same doses of alcohol without  $\Lambda$ . -- I.A. Frolova

Card : 1/1

**CZECHOSLOVAKIA**

Vl. BERKA and I. BERKA, Department of Forensic Medicine of Medical Faculty (Katedra soudniho lekarstvi lekarske fakulty,) UJEP (Universita J. E. Purkyne) and Section of Work Hygiene (Odbor hygieny prace,) KHTS (Krajska hygienicko-epidemiologicka stanice, Krajsk Hygiene and Epidemiology Station) Brno.

"Fatal Poisonings with Carbon Monoxide. Necropsy Findings and Carboxyhemoglobin Levels."

Prague, Pracovni Lekarstvi, Vol 15, No 1, Jan 1963; pp 35-37.

**Abstract [English summary modified]:** In the 6 years ending 1958, there were 289 cases of fatal CO poisoning, or deaths in atmosphere containing noxious concentrations of CO: 57.14 intentional (including both homicidal and suicidal ones) 41.5 accidental and 1.1% industrial. Blood specimens were tested for carboxyhemoglobin in 221 cases: levels were above lethal (50%) in 68.3% of all 221; the highest level found was 90.7%. The cases in which levels were below lethal ones are analyzed in detail. Table, 3 Czech and 1 German reference.

1/1

CHIRKOV, Yu.I., kand. tekhn. nauk; BERKALIYEV, B.T.

Methods of stripping thick steeply dipping iron ore beds. Vest.  
AN Kazakh. SSR 20 no. 7:77-84 Jl '64.

(MIRA 17:11)

BERKALIYEV, B.T.

Methods of opening ore deposits in underground mining with the use  
of self-propelled equipment. Trudy Inst.gor.del AN Kazakh.SSR  
14:122-127 '64.  
(MIRA 1861)

L 44253-66 DFT(1) 30

ACC NR: AR6022380 (N) SOURCE CODE: UR/0397/65/000/024/0012/0012

AUTHOR: Berke, A. K.; Greudinya, Z. Ya.

TITLE: Effect of psychopharmacological agents on the course of manic-depressive psychosis

SOURCE: Ref. zh. Farmakologiya. Toksikologiya, Abs. 24.54.90

REF SOURCE: Sb. Vopr. klinich. nevrol. i psichiatrii. T. 4. Tartu, 1965, 56-59

TOPIC TAGS: pharmacology, psychopathology, chlorpromazine, tranquilizer

ABSTRACT: Case histories of 65 patients with a manic-depressive psychosis treated with chlorpromazine alone and combined with other tranquilizers, with antidepressants, and insulin shock therapy are presented; also, case histories of 44 patients treated by other methods without the use of psychotropic preparations are presented. It was established that with the use of psychotropic preparations, particularly chlorpromazine, the mean duration of the manic and depressive phases does not change and the mean duration of remission (particularly following depressive phases) is considerably reduced. Thus, before use of psychotropic preparations, the remission period following the manic

Card 1/2

UDC: 615.786

L 4L256-66

ACC NR: AR6022380

phase lasted 27.4 mos; and, after the use of psychotropic preparations the remission period lasted only 16.8 mos. Remission following depressive phases in patients receiving psychotropic preparations lasted only 8.7 mos, but lasted on the average 22.4 mos in patients treated with other preparations. Yu. R. [Translation of abstract].

SUB CODE: 06

Card 2/2 MT

BERKE, Bela, dr.

Significance of accident surgery and the Hungarian State Railways. Vasut 13 no.4:14-15 Ap '63.

1. MAV Korhaz es Kosponti Rendelointezet.

BOGNAR, Imre; PAPP, Karoly; TOLGYES, Lajos; BERKE, Bela; URBAN, Sandor  
Issuance of professional standards. Szabuany kozl. 16  
no. 2:H22-H23 F '64.

1. Head, No. I/1 Division of Economic Planning and Technical Development, Ministry of Transportation and Postal Affairs, Budapest (for Bognar). 2. Head, No. I/6 Division of Construction and Track Maintenance, Ministry of Transportation and Postal Affairs, Budapest (for Papp). 3. Head, No. I/7 Division of Mechanical Engineering, Ministry of Transportation and Postal Affairs, Budapest (for Tolgyes). 4. Head, No. I/8 Division of Traffic and Trade, Ministry of Transportation and Postal Affairs, Budapest (for Berke). 5. Head, No. I/9 Division of Telecommunication and Safety Appliances, Ministry of Transportation and Posts, Budapest (for Urban).

BOGNAR, Imre; TOLYES, Lajos; BERKE, Bela; URBAN, Sandor

Issuance of professional standards. Szabvany kozl 16 no.9:H113-H114 S '64.

1. Chief, No.I/1 Division of Economic Planning and Technical Development, Ministry of Transportation and Postal Affairs, Budapest (for Bognar).
2. Chief, No.I/7 Division of Mechanical Engineering, Ministry of Transportation and Postal Affairs, Budapest (for Tolgyes).
3. Chief, No.I/8 Division of Traffic and Trade, Ministry of Transportation and Postal Affairs, Budapest (for Berke).
4. Chief, No.I/9 Division of Telecommunication and Safety appliances, Ministry of Transportation and Postal Affairs, Budapest (for Urban).

TOLGYES, Lajos; BERKE, Bela; URBAN, Sandor; LOMB, Mihalyes

Issuance of professional standards. Szabvany kozl 15 no.3;58-59 Mr  
'63.

1. Kozlekedes- es Postaegyi Miniszterium I/7 Gepeszeti szakosztaly  
vezetoje (for Tolgyes). 2: Kozlekedes- es Postaegyi Miniszterium I/8  
Forgalmi es Kereskedelmi Szakosztaly vezetoje (for Berke). 3. Kozlekedes-  
es Postaegyi Miniszterium I/9 Taykozo es Bistositoberendezesi  
Szakosztaly vezetoje (for Urban). 4. Koho- es Gepipari Miniszterium  
Szabvanyositasi Kozpont vezetoje (for Lomb).

BERKE, Bela

The operation of the common rolling stock of the Council for Mutual Economic Assistance countries starts on July 1. Vasut  
14 no.6;2-3 Je '64.

BERKE, Peter; BEDO, Sandor

Raising heifers by means of reduced, complete and skim milk portions. Allattenyesztes il no.2:103-111 Jl '63.

1. Mezogazdasagi Akademia Allattenyesztetani Tanszek, Keszthely.

LAW/6-61 (A7's)/SWF(t)/EXP(b) LIP(c)/AFSTK  
TAKIUCHI A. TAKIUCHI/SID(t) JD

ACCESSION NR: AP4044963

AUTH: TAKIUCHI A. D.; Calgary, V. V., Maslen, J.

TITLE: Lifetime of excess carriers in doped n-type GaAs

SOURCE: Fizika tverdogo tela, v. 6, no. 9, 1964, 2850-2857

ABSTRACT: The lifetime of excess carriers in n-type GaAs has been determined by experimentally obtained data on stationary paramagnetic effect. Ohmic contacts were soldered on the samples from Al or 100  $\mu$  thick. The samples were 1.5 mm long and 0.1 mm thick at the rate of 500 rpm. The samples were cut and the paramagnetic effect with temperature was measured in presence of trapping of excess carriers. Variations of carrier concentration with temperature for different concentrations are given in the enclosure. Theoretical values calculated according to recombination theory, assuming direct transition, are plotted as solid curves. The data are given in the table.

the net, all available materials for the effective analysis of representations influences the final outcome. All was done to

Technische Beschreibung des Modells

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14046-65  
ACCESSION NO: 4910465

VERB DATE 2

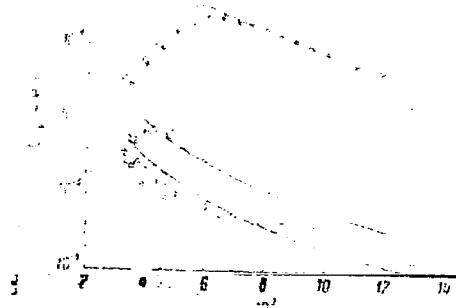


FIG. 1. Temperature dependence of the lifetime of excess carriers. Impurity concentration of 10<sup>17</sup> cm<sup>-3</sup>.

DATA CALCULATED

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"APPROVED FOR RELEASE: 06/08/2000

CIA-RDP86-00513R000204920011-2

Investigation of the lifetime of nonequilibrium current carriers and the  
noises in p-InSb

SOURCE: Physics Department

PHOTO: P-type SIZZLE crystal

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CLASSIFIED



Different temperatures were determined for a specimen with a concentration of current carriers of  $4 \times 10^{12} \text{ cm}^{-3}$  at  $T = 78\text{K}$ . An i/f type noise was observed at low frequencies, while at high frequencies a power law noise was observed.

L 11120-66 EWT(m)/EWP(t)/EWP(b) IJP(c) JD  
ACC NR: AP6000891 SOURCE CODE: UR/0181/65/007/012/3685/3688

AUTHORS: Berkeliyev, A. D.; Galavanov, V. V.; Nasledov, D. N. 69  
ORG: Physicotechnical Institute im. A. F. Ioffe AN SSSR, Leningrad B  
(Fiziko-tehnicheskiy institut AN SSSR)

TITLE: Influence of deep acceptor level on the electric properties  
of p-InSb

SOURCE: Fizika tverdogo tela, v. 7, no. 12, 1965, 3685-3688

TOPIC TAGS: indium compound, antimonide, activation energy, carrier  
density, temperature dependence, impurity level

ABSTRACT: The authors report results of an investigation of the  
electric properties of single-crystal p-InSb with hole concentration  
at  $10^{12}$  --  $10^{14}$  cm<sup>-3</sup> at 78K. Two samples were prepared by zone melting,  
three samples were doped with germanium, and seven samples were  
obtained from n-type crystals by doping with copper or by heat treatment.  
The measurements were made at temperatures 78 -- 300K. The

Card 1/2

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L 14120-66

ACC NR: AP6000891

activation energy of the impurities was determined from the temperature dependence of the electric conductivity and of the hole coefficient. For samples with  $p < 10^{13} \text{ cm}^{-3}$  the activation energy was 0.11 -- 0.12 ev; with increasing hole concentration, the activation energy decreased rapidly reaching 0.01 ev at  $5 \times 10^{13} \text{ cm}^{-3}$ . The activation energy was independent of the prior history of the samples and of the nature of the alloying impurity. The results can be interpreted by assuming the existence of both deep levels (activation energy 0.12 ev) and shallow levels in the forbidden band of InSb. This hypothesis is borne out by a study of the dependence of the hole concentration on the reciprocal temperature. Orig. art. has: 2 figures, 1 formula, and 1 table.

SUB CODE: 20/ SUBM DATE: 12Jul65/ ORIG REF: 004/ OTH REF: 005

*TS*  
Cord 2/2

BERKELIYEV, M.; MASHRYKOV, K.K., doktor geol.-miner. nauk, red.; MESKUTOV, V., red.; GULZHAYEV, E., red.; KHARITONOVА, Ye.I., red.; STREL'TSOV, E., tekhn. red.

[Russian-Turkmen dictionary of geological terms] Russko-turkmenskii slovar' geologicheskikh terminov. Pod red. K.K. Mashrykova i V.Meskutova. Ashkhabad, Izd-vo Akad. nauk Turkmeneskoi SSR, 1962. 226 p. (MIRA 16:1)

(Russian language—Dictionaries—Turkmen)  
(Geology—Dictionaries)

"APPROVED FOR RELEASE: 06/08/2000

CIA-RDP86-00513R000204920011-2

BERKALIYEV, Z.T.

Load of streams in the Ili Basin. Izv.AN Kazakh.SSR.Ser.energ.  
no.4/5;3-10 '54. (MLRA 9:5)  
(Ili Valley--Alluvium)

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3(4)

PHASE I BOOK EXPLOITATION

SOV/2786

Berkaliyev, Zeynula Temiraliyevich

Gidrologicheskiy rezhim rek Tsentral'nogo, Severnogo i Zapadnogo Kazakhstana  
(Hydrological Regime of the Rivers of Central, Northern, and Western  
Kazakhstan). Alma-Ata, AN Kazakhskoy SSR, 1959. 277 p. Errata slip  
inserted. 1,500 copies printed.

Sponsoring Agency: Akademiya nauk Kazakhskoy SSR. Institut energetiki.

Resp. Ed: V.L. Shul'ts, Doctor of Geographical Sciences, Professor;  
Eds.: N.A. Vaslavskiy, and N.D. Zhukova; Tech. Ed.: Z.P. Rorokina.

PURPOSE: This book is intended for hydrologists, geographers, and hydraulic  
engineers.

COVERAGE: This book treats the hydrology of the rivers in the Karagandinskaya,  
Akmolinskaya, Kokchetavskaya, North Kazakhstanskaya, Kustanayskaya, Aktyubinskaya,  
West Kazakhstanskaya, Gur'yevskaya, and Pavlodarskaya Oblasts of Kazakhstan.

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## Hydrological Regime (Cont.)

SOV/2786

The author reviews the local climatic conditions which affect the formation of water flow and discharge parameters. Hydrologic material, based both on field observations and theoretical calculations, is presented. Hydrological conditions are also studied from the hydrochemical point of view. The data collected in the book include: mean discharges of streams, calculated for a period of several years; spring discharges and discharges caused by snow melt; seasonal and annual variations; and methods of computation. The area of study is divided into the following geographic regions: rivers of Obshchiy Syrt; rivers of the Podural'skoye plateau; rivers originating in the Mugodzhary Mountains; rivers of the Kazakhstan folded area (south of Karaganda); and the Ural river basin. The book was compiled in the department of hydrology at the Institut energetiki (Institute of Power Economy), Kazakhstan Academy of Sciences. K.B. Shergina prepared the material on maximum and flood peak discharges; Ts.I. Slutskaya wrote the chapter on hydrochemistry; M.A. Goncharova and L.P. Tronina prepared the material on measurement and the computation graphs; V.P. Shaporenko prepared the maps; P.F. Lavrent'yev, Candidate of Technical Sciences, assisted in the compilation of the chapter on sedimentation; Professor V.L. Shults reviewed the entire publication. There are several hydrologic maps, numerous graphs and tables. There are 77 Soviet references.

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## Hydrological Regime (Cont.)

SOV/2786

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4. Long-range mean values (norms) of the annual discharge for the streams of the Ural river basin
5. Long-range values (norms) of the annual discharge for Obshchiy Syrt rivers
6. Methods of computing the mean long-range values of the annual discharge in unexplored rivers and river sections

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AVAILABLE: Library of Congress

Card 5/5

MM/jb  
12-16-59

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BERKAN, Ya.; ZVARGULE, A., vneshtatnyy instruktor; KHARITONOVА, V.,  
doverenyy vrach; SAVEL'YEVA, G., inzh.-tekhnolog; NIKOLAYЕVA, A.,  
starshiy instruktor; SMIRNITSKAYA, Ye.; KHMЕLOVA, V.

Changes for the better. Okhr.truda i sots.strakh. 5 no.4:20-22  
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1. Predsedatel' obshchestvennogo soveta 4-y ob"yedinennoy bol'nitsy  
g. Rigi (for Berkhan). 2. Respublikanskiy sovet profsoyuzov  
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"Sovetskaya Latviya" (for Smirnitskaya). 5. Spetsial'nyy  
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(for Khmaleva).

(Latvia--Sanatoriums)

BERKASH, Galina Vasil'yevna; FAVOROVA, Nina Leonidovna; GEL'FENBEIN, L.L.,  
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[Chrestomathy in the English language for higher educational  
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Building construction. Khrestomatija po angliiskomu jazyku dlia  
stroitel'nykh vuzov i fakul'tetov. Khar'kov, Izd-vo Khar'kovskogo  
gos.univ.im.A.M.Gor'kogo, 1960. 162 p. (MIRA 13:10)  
(English language--Textbooks for foreigners)  
(Building)

BOGNAR, Imre; PAPP, Karoly; TOLGYES, Lajos; BERKE, Bela; RICHTER, Ervin

Appearance of professional standards. Szabvany kozl 14 no.9:202-204 S '62.

1. Kozlekedesi- es Postaegyi Miniszterium, Tervgazdasagi es Muszaki Fejleszlesi szakosztaly vezetoje (for Bognar). 2. Kozlekedesi- es Postaegyi Miniszterium Epitesi es Palyafenntartasi szakosztaly vezetoje (for Papp). 3. Kozlekedesi- es Postaegyi Miniszterium Gepeszeti Szakosztaly vezetoje (for Tolgyes). 4. Kozlekedesi- es Postaegyi Miniszterium Forgalmi es Kereskedelmi szakosztaly vezetoje (for Berke). 5. Kohaszati es Gepipari Miniszterium 3. sz. Erosaramu Szabvanyositasi Dozpont vezetoje (for Richter).

"APPROVED FOR RELEASE: 06/08/2000

CIA-RDP86-00513R000204920011-2

BERKE, Janos (Budapest); LANDESCH, Istvan (Budapest)

Innovators' letters. Ujít lap 14 no.21:31 10 N '62.

APPROVED FOR RELEASE: 06/08/2000

CIA-RDP86-00513R000204920011-2"

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S/165/60/000/003/004/009  
A104/A129

AUTHOR: Berkeliyev, M.

TITLE: Some characteristics of the ionospheric perturbation of layer F<sub>2</sub> at Ashkhabad during various geomagnetic activities in 1952 - 1958

PERIODICAL: Akademiya nauk Turkmenskoy SSR. Izvestiya. Seriya fiziko-tehnicheskikh, khimicheskikh i geologicheskikh nauk, no. 3, 1960, 85 - 87

TEXT: The article refers to the small number of investigations on ionosphere perturbances in southern latitudes and attempts to reveal the conduct of positive and negative perturbances of layer F<sub>2</sub> in relation to geomagnetic and solar activities. The findings are based on the hourly values of critical frequencies F<sub>2</sub> for 1952 - 1958 as recorded by the ionosphere station "Ashkhabad". The percentage deviation of critical frequencies from their standard value ( $\Delta f^0 F_2$ ) served as assumed perturbation criteria of layer F<sub>2</sub>. The normal condition of the layer per hour was determined with the help of the monthly sliding median. The layer was considered perturbed if  $\pm fF_2$  exceeded 20%. The comparison with the magnetic activity level was based on the conventional system of characteristics used in magnetic observatories, i.e., calm - 0.0; moderately perturbed 1.0 - 1.5 - 2.0 and strongly

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A104/A129

Some characteristics of the...

perturbed 1.5 - 2.0. The calm, moderately and strongly perturbed days were calculated based on 12,788, 8,357 and 2,397 hourly values. The purpose of this evaluation was the determination of the probability average of positively and negatively perturbed hours per year, day and a seven-year period in respect distribution. The obtained yearly probability averages of perturbed hours caused by anomalous deviations and the level of geomagnetic activity indicate that the probability of positively and negatively perturbed hours grows correspondingly to the increasing level of geomagnetic activity. The derived material was processed according to statistical methods and shows that the Gaussian distribution of  $\Delta f^0 F_2$  in respect of calm and perturbed conditions is limited, i.e.,  $+f^0 F_2 \Delta > -f^0 F_2 \Delta$  in minimum years and  $+f^0 F_2 \Delta < -f^0 F_2 \Delta$  in maximum years. The study of ionospheric perturbations during 1952 - 1958 reveals that there was no maximum during  $-f^0 F_2 \Delta > 20\%$  whereas during  $+f^0 F_2 \Delta > 20\%$  maxima were recorded in years of minimum solar activity. Following conclusions were drawn: increased geomagnetic perturbation results in increased probability of hours with positive or negative anomalous deviations. The positive and negative ionospheric perturbances occur in opposite relation to solar activity, i.e., negative anomalous deviations are more frequent in maximum years, whereas in minimum years there are more positive deviations. During the whole

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Some characteristics of the...

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A104/A129

period 1952 - 1958 the greatest increase of positive disturbance was observed in minimum years 1952 - 1953. There is 1 figure and 9 Soviet-bloc references.

ASSOCIATION: Institut fiziki i geofiziki AN Turkmeneskoy SSR (Institute of Physics and Geophysics of the AS of Turkmeneskaya SSR)

SUBMITTED: August 15, 1959

Card 3/3

BERKELIYEV, M.

Metamorphism of ore enclosing rocks in the Maydanshakhskoye  
mineral deposit. Vop.geol.Uzb. no.2:44-47 '61. (MIRA 15:12)  
(Kugitang-Tau—Metamorphism (Geology))

BERKELIYEV, M.; YEROFEYEV, N.M.; KLIMOVA, Z.N.; STEPANOVA, M.B.

Characteristics of the ionosphere over Ashkhabad in March 1960.

Izv.AN Turk.SSR.Ser.fiz.-tekhn., khim.i geol.nauk no.3:92-95 '61.

(MIRA 14:7)

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State of the ionosphere over Ashkhabad in April, 1960. Izv.  
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'61. (MIRA 14:12)

1. Fiziko-tehnicheskiy institut AN Turkmenской SSR.  
(Ashkhabad--Ionosphere)

BERKELIYEV, M.

Role of carbonate ore enclosing rocks in the formation of ores of  
the Maydanshakhskoye deposit. Uzb.geol.zhur. no.6:85-87 '61.  
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(Kugitang-Tau--Rocks, Carbonate) (Ore deposits)

BERKELIYEV, M.B.; YEROFEYEV, N.M.; STEPANOVA, M.B.

State of the ionosphere over Ashkhabad in June 1960. Izv.  
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110 '61. (MIRA 15:3)

1. Fiziko-tehnicheskij institut AN Turkmenskoy SSR.  
(Ashkhabad--Ionosphere)

"APPROVED FOR RELEASE: 06/08/2000

CIA-RDP86-00513R000204920011-2

Author: Deireilly, H.

tion of electron concentration for 10 international markets.

APPROVED FOR RELEASE: 06/08/2000

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"APPROVED FOR RELEASE: 06/08/2000

CIA-RDP86-00513R000204920011-2

APPROVED FOR RELEASE: 06/08/2000

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BOCHKAREV, V.P., kand. geol.-miner. nauk; NIKITINA, L.G., kand. geol.-miner. nauk; SHAPIRO, S.M., kand. geol.-miner. nauk; EYDINOVA, N.M., st. inzh.; GOLOBOROD'KO, G.L., inzh.; PERLIK, G.P., inzh.; BANDALETOV, S.M., kand. geol.-miner. nauk; VLADIMIROV, N.M., kand. geol.-miner. nauk; SADYKOV, A.M., kand. geol.-miner. nauk; MALYSHEV, Ye.G., ml. nauchn. sotr.; BERKALIYEV, N.A., st. inzh.; EYDINOV, Yu.I., st. inzh.; MUKHAMEDZHANOV, S.M., kand. geol.-miner. nauk; ISABAYEV, T.T., st. inzh.; MOTOV, Yu.A., inzh.; KOLOTILIN, N.F., kand. geol.-miner. nauk; LAPIDUS, Zh.D., inzh.; SHOYMANOVA, M.M., inzh.; YAREMCHEV, G.S., inzh.; BARBOT-MARINI, A.V., kand. miner. nauk [deceased]; MIKHAILOV, B.P., st. inzh.; SATPAYEV, K.I., akademik, glav. red. [deceased]; MEDOYEV, G.TS., otv. red.; DMITROVSKIY, V.I., red.; SEMENOV, I.S., red.; BRAILOVSKAYA, M.Ya., red.; KOROLEVA, N.N., red.

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Izv. AN Turk. SSR. Ser. fiz.-tekhn., khim. i geol. nauk. no. 6:15-19 '63.  
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BERKENBLIT, Z.M., kandidat pedagogicheskikh nauk.

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MYASISHCHEV, Vladimir Nikolsayevich, prof., red.; KHVILIVITSKIY,  
Teodor Yakovlevich, starshiy nauchnyy sotrudnik, red.;  
GRASHCHENKOV, N.I., prof., red.; ANAN'IEV, B.G., prof., red.;  
VASIL'YEV, L.L., prof., red.; GILYAROVSKIY, V.A., prof., red.  
[deceased]; OMOROKOV, L.I., prof., zasluzhennyy deyatel' nauki,  
red.; PROTOPOPOV, V.P., prof., red. [deceased]; BERKENBLIT,  
Z.M., red.; RUL'VA, M.S., tekhn.red.

[V.M.Bekhterev and modern problems in the structure and function  
of the brain under normal and pathological conditions; transactions  
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niia i funktsii mozga v norme i patologii; trudy Vsesoiuznoi  
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Bekhtereva. Pod red. V.N.Miasishcheva i T.IA.Khvilitvitskogo.  
Leningrad, Gos.izd-vo med.lit-ry Medgiz, Leningr.otd-nie, 1959.  
294 p.

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(Continued on next card)

MYASISHCHEV, V.N.---(continued) Card 2.

1. Chlen-korrespondent Akademii pedagogicheskikh nauk RSFSR (for Myasishchev).
2. Predsedatel' Uchenogo meditsinskogo soveta Ministerstva zdravookhraneniya SSSR, chlen-korrespondent AN SSSR i deystvitel'nyy chlen AMN SSSR (for Grashchenkov).
3. Deystvitel'nyy chlen Akademii pedagogicheskikh nauk RSFSR (for Anen'yev).
4. Chlen-korrespondent AMN SSSR (for Vasil'yev).
5. Deystvitel'nyy chlen AMN SSSR (for Gilyarovskiy).
6. Deystvitel'nyy chlen AN USSR (for Protopov).

(NERVOUS SYSTEM)

(BEKETKREV, VLADIMIR MIKHAILOVICH, 1857-1927)

TIKOCHINSKAYA, Esfir' Davydovna, prof.; BERKHNEVIT, Z.M., red.;  
SHEVCHENKO, P.Ya., tekhn.red.

[Acupuncture and cauterisation] Igloukalyvanie i prishiganie.  
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1960. 53 p.

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(ACUPUNCTURE)

ASTAKHOV, S.N.[deceased]; BERKENBLIT, Z.M., red.; BUGROVA, T.I.,  
tekhn. red.

[Therapeutic effect of the word] Lechebnoe deistvie slova. Le-  
ningrad, Medgiz, 1962. 94 p.  
(MIRA 16:1)  
(PSYCHOTHERAPY)

IKOVA, Valentina Viktorovna; BERKENBLIT, Z.M., red.; LEBEDEVA,  
G.T., tekhn. red.

[Exercise therapy in posture defects and scoliosis in  
children of pre-school age] Lechebnaia fizicheskaiia kul'-  
tura pri defektakh osanki i skoliozakh u doshkol'nikov.  
Leningrad, Medgiz, 1963. 62 p. (MIRA 17:1)

\*

KUPALOV, Petr Stepanovich [deceased]; VOYEVODINA, Ol'ga Nikolayevna;  
VOLKOVA, Valentina Dmitriyevna; MALYUKOVA, Irina Vasil'yevna;  
SELIVANOVA. Al'bina Timofeyevna; SYRENSKIY, Valeriy Ivanovich;  
KHANANASHVILI, Mikhail Mikhaylovich; SHCHIKO, Gennadiy  
Andreyevich; BERKENBLIT, Z.M., red.

[Situational conditioned reflexes in normal dogs and in  
pathology] Situatsionnye uslovnye refleksy u sobak v norme i  
patologii. Leningrad, Meditsina, 1964. 274 p.

(MIRA 17:8)

Berkenesku, M

RUMANIA/General Problems

E-1

Abs Jour : Ref Zhur - Khimiya, No 3, 1958, No 7504

Author : Berkenesku, Mechelaru

Inst : Not Given

Title : The Problems of Analytical Chemistry in Publications of Soviet Chemists

Orig Pub : An. Rom-Sov. Sez. Chemi, 1957, 11, No 2, 43-61

Abstract : Review of the scientific papers published in USSR in recent years concerning mostly the analytical classification, problems of sensitivity and selectivity of chem. reactions, separation of elements and problems of accuracy and speed of analysis.

Card : 1/1

5.4210  
24.1800

68342

5-(4)AUTHOR: Berkengeym, A. A. (Moscow)S/076/60/034/01/017/044  
B008/B014

TITLE:

The Velocity of Propagation of Ultrasonic Waves in Aqueous Phenol Solutions

PERIODICAL:

Zhurnal fizicheskoy khimii, 1960, Vol 34, Nr 1, pp 105-107  
(USSR)

ABSTRACT:

In this paper the author investigated the velocity of propagation of ultrasonic waves in pure phenol and in 5%, 28%, 40%, and 47.7% aqueous phenol solution. A table lists the results of measurement which are accurate to within 0.5%. The propagation velocity of the ultrasonic waves in 5% aqueous phenol solution increases with temperature rise and attains its maximum at 63°. With further temperature rise it begins dropping. Within the range of partial solubility the velocity of ultrasonic waves was studied in both layers. Table 2 contains the temperature dependence of the pressure difference in the case of saturated vapors over the phenol solution and water. The vapor pressures listed were found within the range of partial solubility of phenol (Ref 4). The table indicates that with rising temperature the pressure over the solution

Card 1/2

68342

The Velocity of Propagation of Ultrasonic Waves  
in Aqueous Phenol Solutions

S/076/60/034/01/017/044  
B008/B014

is lowered compared to that over the solvent. This may be explained by the complex formation in the solution. From 40° onward the formation of complexes is reduced, and complex dissociation starts at 55°. The vapor pressures over the solution become higher than those over the pure solvent. Above the critical solubility temperature all solutions exhibit the same behavior. With a temperature rise, the velocity of sound is therein reduced, whereas it depends on the phenol content at one and the same temperature. L. G. Melkonyan and V. V. Tarasov are mentioned in this paper. There are 2 tables and 4 Soviet references.

SUBMITTED: April 21, 1958

Card 2/2

REF ID: A6513R000204920011-2

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ACC. NR. AP6012674

SOURCE CODE: UR/0170/66/010/004/0459/0464

54

AUTHOR: Berkengeym, A. A.

52

ORG: Aviation Institute im. Sergo Ordzhonikidze, Moscow (Aviatsionnyy Institut)

53

TITLE: Investigating natural convection in cylindrical fluid layers

SOURCE: Inzhenerno-fizicheskiy zhurnal, v. 10, no. 4, 1966, 459-464

TOPIC TAGS: heat transfer, convective heat transfer, natural convection, concentric annuli

2/14415

ABSTRACT: The generalized Kraussold-Mikheyev relationship  $\epsilon = f(Gr, \Pr)$ , where  $\epsilon$  is the convective heat transfer coefficient and  $\delta$  is the annulus width, which is widely used in the study of convective heat transfer in concentric annuli, is based on experimental results for large annuli and cannot always be applied to annuli of other sizes. Therefore, special experiments were conducted to determine the dependence of the convective heat transfer coefficient on the physical properties of the fluid and the position (horizontal or vertical) and size of annuli under conditions not previously investigated. Concentric annuli, ranging in width from 1.5 to 6.6 mm, were formed by a heated platinum wire 0.1 mm in diameter inserted into a glass tube. Water or

Card 1/3

UDC: 536.25

I 23039-66

ACC NR: AP6012674

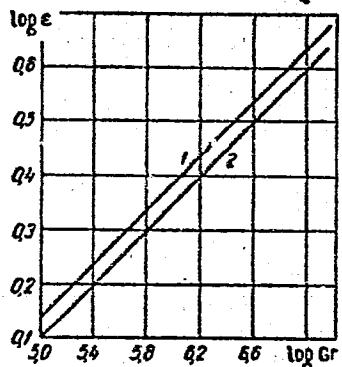


Fig. 1. Convective heat transfer coefficients

1 - Horizontal annuli;  
2 - vertical annuli.

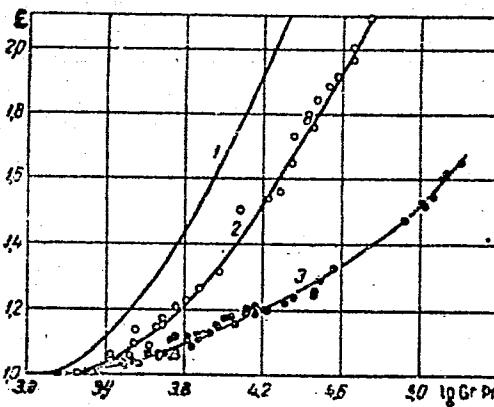


Fig. 2. Relationship between  $\epsilon$  and  $Gr\delta Pr$  (semilog scale)

1 - By Kraussold-Mikheyev formula;  
2 and 3 - results for horizontal  
and vertical annuli, respectively;  
a - water; b - ethyl alcohol.

Card 2/3

ACC NR: AP6012674

96%-ethyl alcohol was used as the heat transfer medium. The obtained results are shown in figures 1 and 2. It is concluded that: 1) Experimental results of convective heat transfer in concentric annuli filled with a liquid are described by two different curves—one for horizontal and the other for vertical annuli; both curves are independent of the type of liquid and the width of annuli. 2) The convective heat transfer coefficient is considerably higher for horizontal annuli than for vertical. 3) In horizontal annuli, the convection is initiated at  $Gr_0Pr = 1000$  and in vertical, at  $Gr_0Pr = 1700$ . The author thanks Professor N. B. Vargaftik for his participation in the analysis of the results and his valuable advice. Orig. art. has: 3 figures, 1 table, and 9 formulas.

[AS]

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ATD PRESS: 4234

Card 3/3 FV

"APPROVED FOR RELEASE: 06/08/2000

CIA-RDP86-00513R000204920011-2

Berkengeym, A.M., Yartseva, N. G., Chukhina, Ye I. I Polunina, Ye F.

Ob "l'bikhtole-Novom Preparate, Zameny-Yushchem Ikhtiol, " goryuchiye Slantsy, 1933, No.2,  
22.

SO: Goryuchiye Slantsy No. 1934-35 TN..871  
.G74

APPROVED FOR RELEASE: 06/08/2000

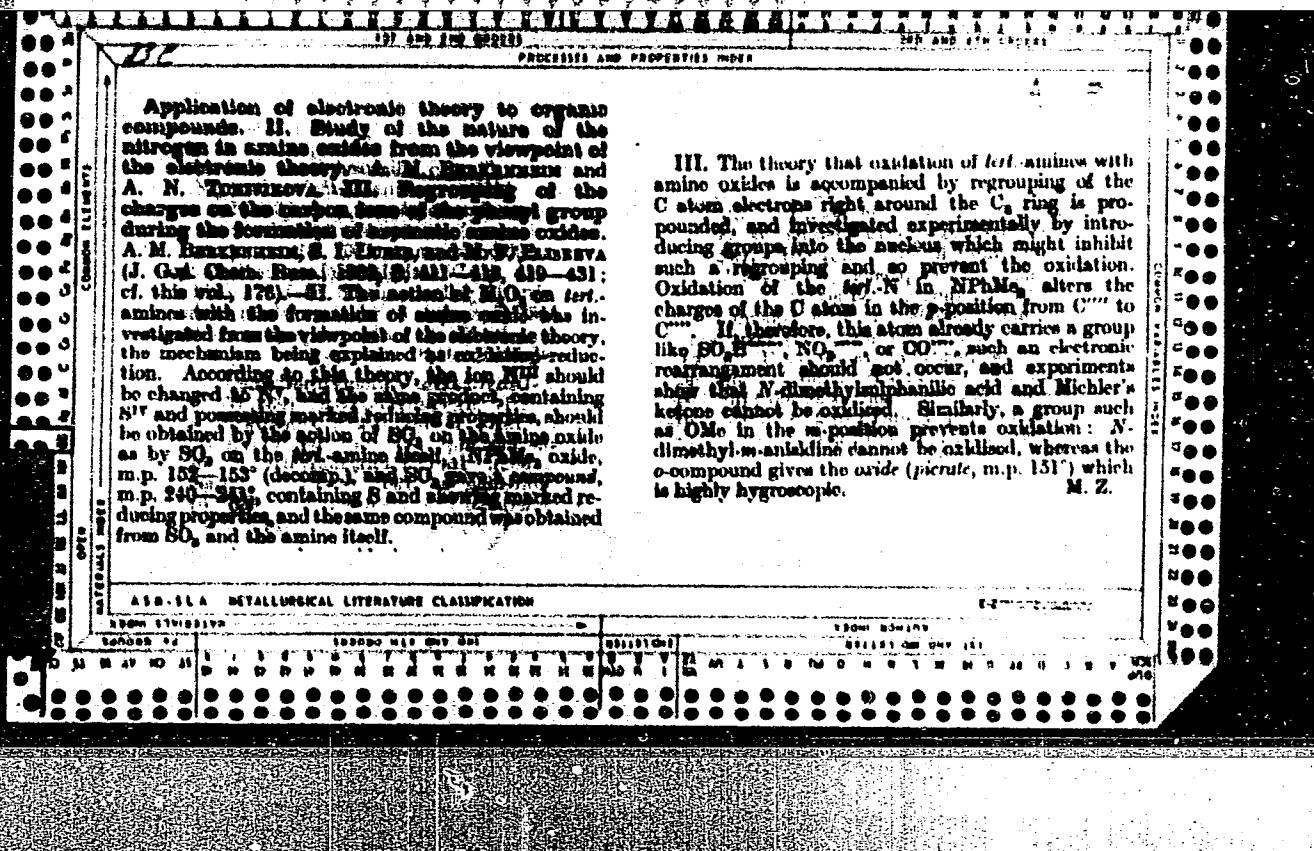
CIA-RDP86-00513R000204920011-2"

Application of the electronic theory to the chemistry of organic compounds. I. Preparation of numerous nitro-compounds from the viewpoint of electronic theory. A. M. BRONSTED and M. J. COOPER (*J. Gen. Chem. Russ.*, 1933, 3, 335-410).—An experimental verification by standard methods of org. chemistry of the "electrodynamic" theory of intramol. changes of  $\text{NO}_2$ -compounds giving rise to different types of N compounds. Three changes are possible of the oxidation-reduction type, involving transformation of  $\text{N}^{\text{V}}$  into  $\text{N}^{\text{II}}$ , and of  $\text{NO}_2$  into  $\text{O}_2\text{N}$ . The electronic structure of aromatic compounds is examined, and the position, nature, and manner of the attachment of  $\text{NO}_2$  to the nucleus, as well as the possibility of rearrangements, are demonstrated. With "abnormal" compounds, both electrostatic and electrodynamic rearrangements are possible; in the former case more stable compounds result owing to the migration

of the group in the nucleus, all the charge signs remaining unaltered, whilst in the latter case, new compounds (complex, aromatic nitrous esters) are formed. In the course of such dynamic rearrangements, secondary products appear owing to further transformations of the aromatic nitrite into OH compounds. The aromatic nitrite can be independently prepared and identified by the action of  $\text{NOCl}$  on the metallic phenoxides. With  $\text{e-OH-C}_6\text{H}_4\text{-CO}_2\text{Me}$ ,  $\text{NOCl}$  gives a nitrite, m.p. 126–131°, and also Me *p*-nitroacetylinate, m.p. 114–115°. Alkalies remove the Me and cause a rearrangement, giving a mixture of *o*- and *p*-nitromalic acids.  $\text{e-OH-C}_6\text{H}_4\text{-NO}_2$  and  $\text{NOCl}$  give a nitrite isomeric with  $\text{e-C}_6\text{H}_4\text{-NO}_2$ . Nitration of  $\text{BuOH}$  gives  $\text{o-NO}_2\text{-C}_6\text{H}_4\text{-CO}_2\text{H}$ , identical with that obtained by oxidation of  $\text{PhMe}$ , in accordance with the electronic rearrangement theory; during nitration of  $\text{BuOH}$ , secondary products, corresponding with those formed when the isomeric nitrite is synthesised, are obtained. The fourth nitrobenzoic acid, m.p. 124–125° (cf. A., 1880, 281), which gave an intense coloration with  $\text{FeCl}_3$ , is identical with the aromatic nitrite. M. Z.

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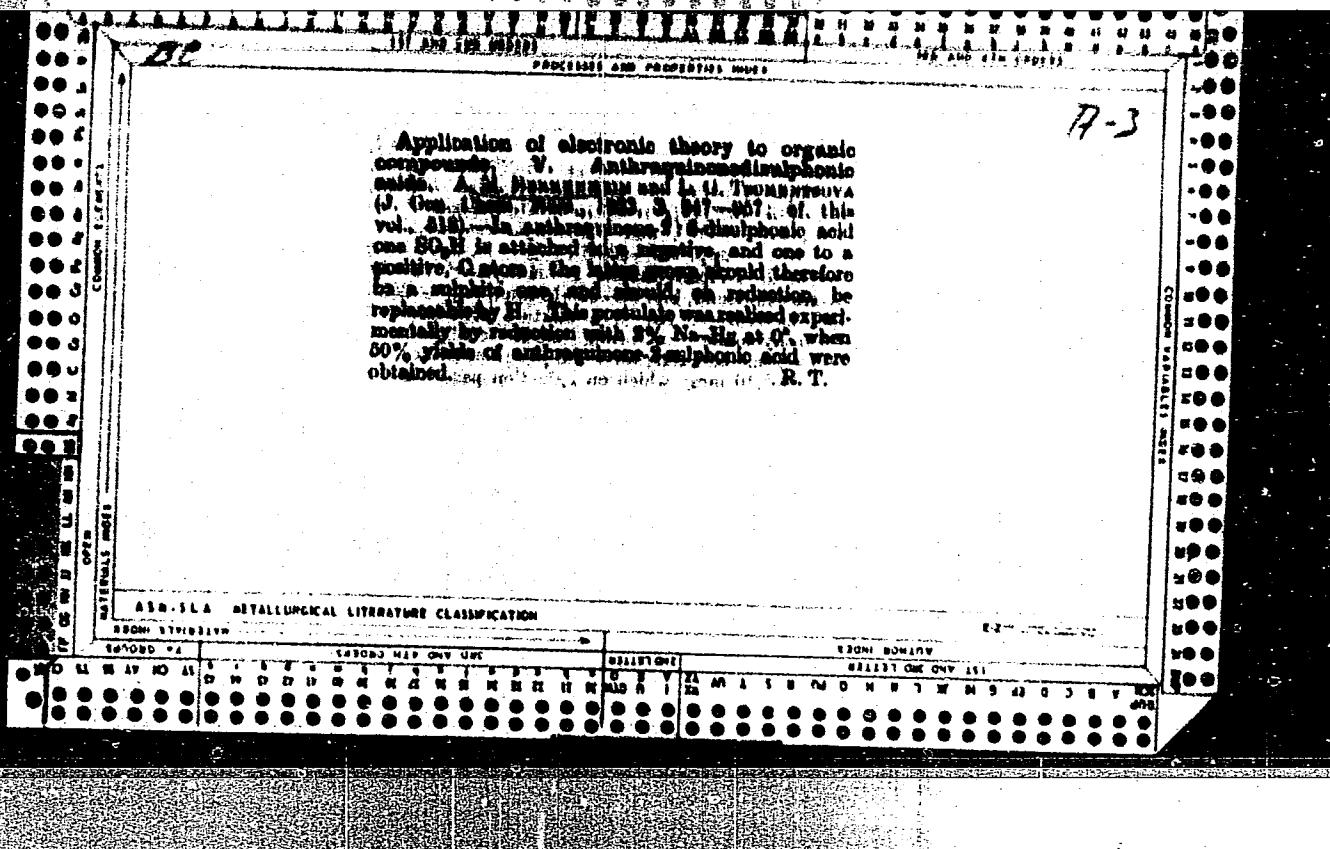
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A-3

Column Elements	Application of electronic theory to organic compounds. IV. Naphthalene-methanesulfonic acids. I. A. M. Ruzenina and M. G. Tikhonova (J. Gen. Chem. Russ., 1953, 5, 933-946; cf. this vol., 178, 309-314). Dzher. 43, No. 1, 1953, obtained from $\text{Na}_2\text{SO}_3$ and $\text{SO}_3$ , in $\text{H}_2\text{O}$ at 0°, reaction time 10 min. Preparation of $\text{C}_1\text{H}_1\text{SO}_3$ to afford $\text{C}_1\text{H}_1\text{SO}_3$ (III). Preparation (C <sub>1</sub> H <sub>1</sub> ) <sub>2</sub> SO <sub>3</sub> (IV) attempted on dissolving in NaOH and adding $\text{H}_2\text{O}_2$ . Attempts at preparing $\text{C}_1\text{H}_1\text{HSulphite}$ (IV) by hydrolysis of (II) were unsuccessful; the final product being an allene (III). The salts of (IV) are, however, more stable; thus the Na salt obtained by shaking in 10% solution of (I) with $\text{H}_2\text{O}_2$ and neutralizing the $\text{H}_2\text{O}_2$ with NaOH, differs from that of 20% $\text{C}_1\text{H}_1\text{SO}_3$ in being readily decomposed by dil. $\text{Na}_2\text{SO}_3$ or $\text{Na}_2\text{SO}_4$ and (II). An interpretation of the above results from the point of view of the electronic theory leads to the conclusion that the first process of sulfonation of $\text{C}_1\text{H}_1$ is $\text{I} \cdot \text{C}_1\text{H}_1\text{SO}_3\text{H}$ , the SO <sub>3</sub> H of which then migrates to the third C atom. During the process of fusion with NaOH the SO <sub>3</sub> H undergoes electron rearrangement, with conversion into the sulphyte radical, which again migrates to the second C atom to afford (IV), which is converted as above into (III). R. T. <tr> <td style="width: 10%;">Metallurgical Index</td> <td colspan="10" style="text-align: center; padding: 5px;">AER-518 METALLURGICAL LITERATURE CLASSIFICATION</td> </tr> <tr> <td style="width: 10%;">EDITION NUMBER</td> <td colspan="10" style="text-align: center; padding: 5px;">EDITION NUMBER</td> </tr> <tr> <td style="width: 10%;">100000-14</td> <td colspan="10" style="text-align: center; padding: 5px;">100000-14</td> </tr> <tr> <td style="width: 10%;">S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 80 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 150 161 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Berkengeym, "M.,

Prof. O Produktakh Sul'firovaniya Raznykh Pogonov Slantsevoy Smoly I Ikh  
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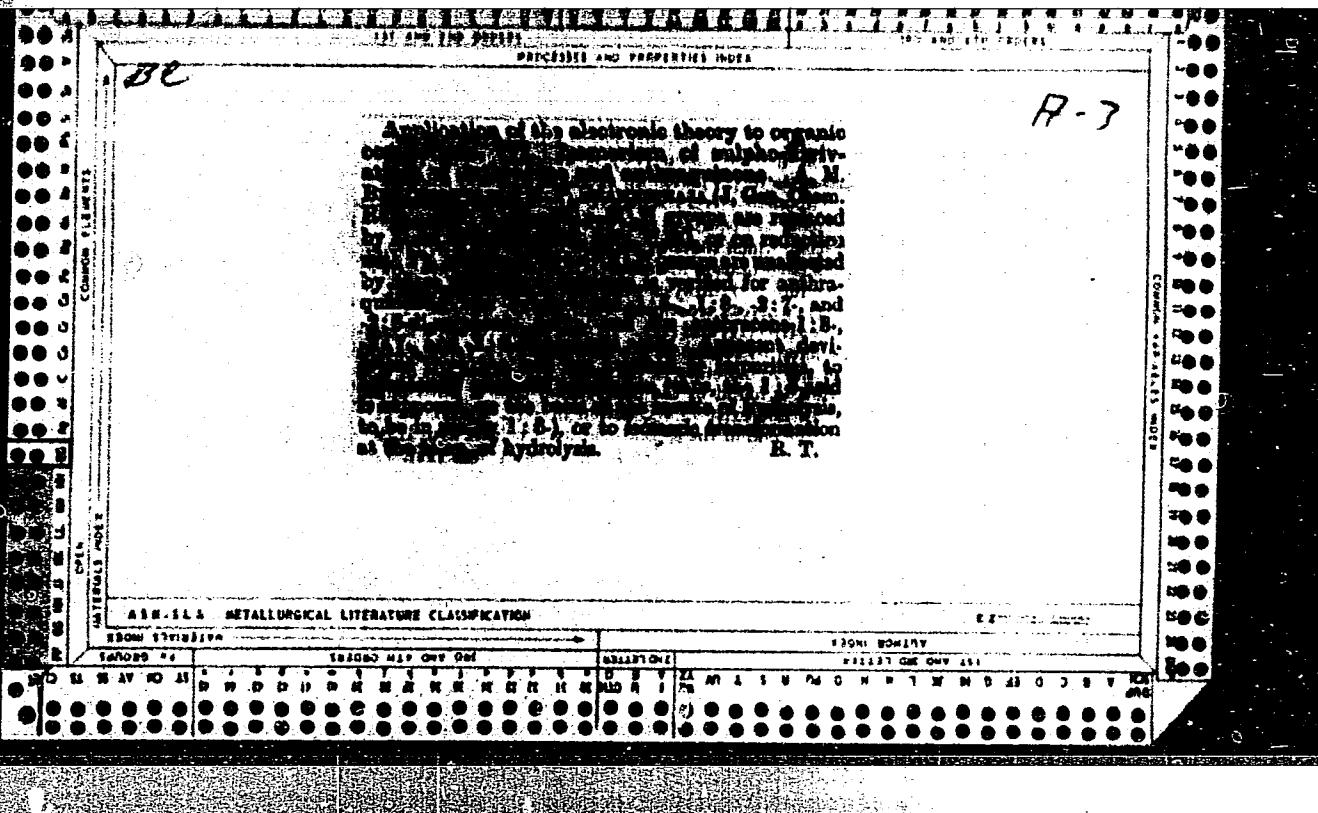
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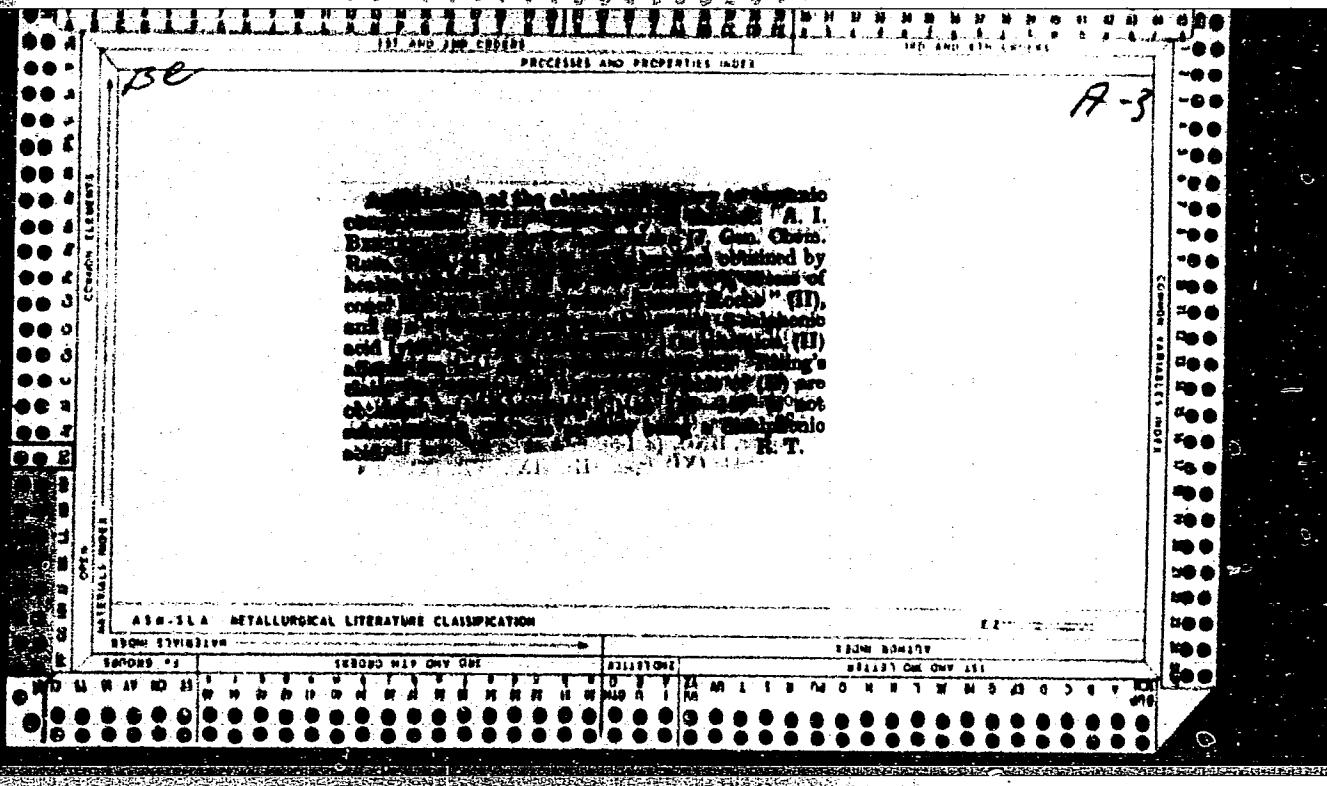
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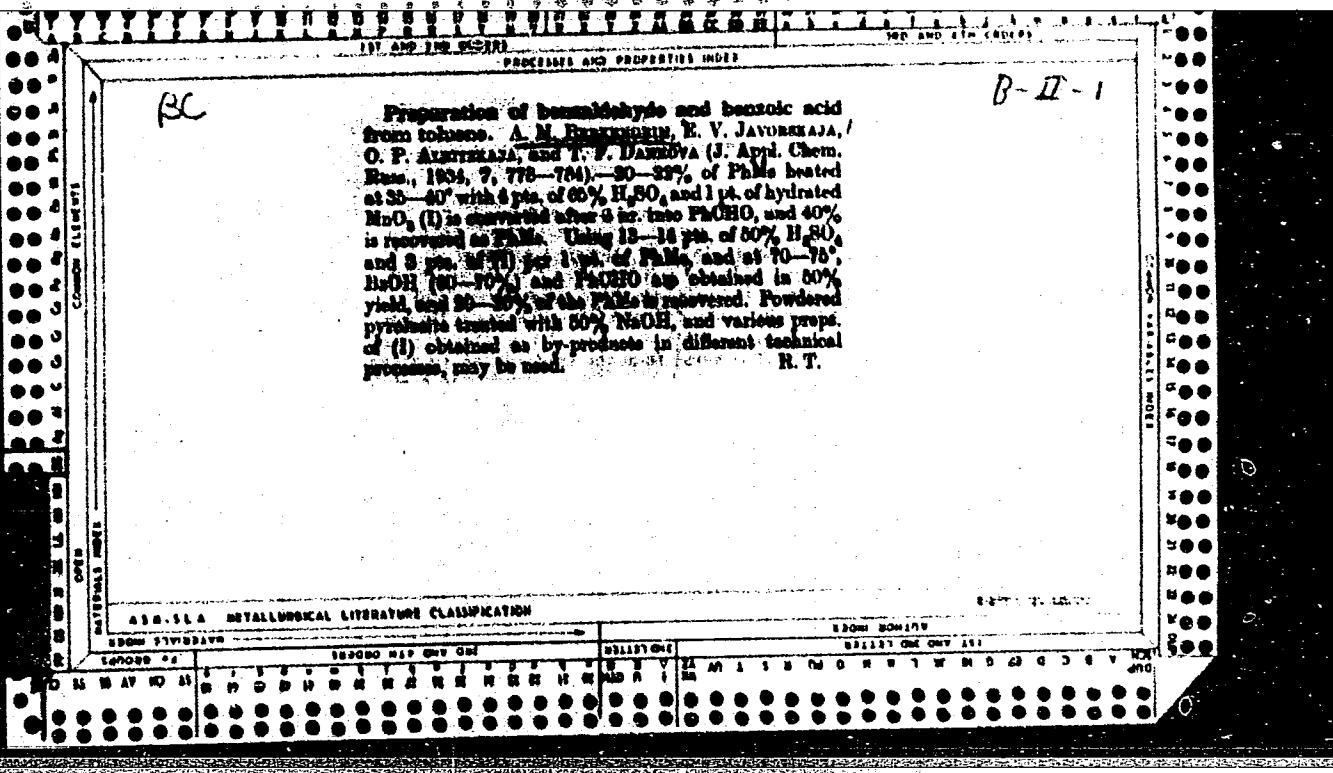
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Further details on the methods used in the preparation of "alkibitol." A. M. Berkencuus, T. V. Pockeava and L. V. Antik. *Cerny'ske Slováky* 4, No. 2, 37-40 (1934); *Jed.* 3, No. 2 (1933).—The first description of this process dealt with the oxidation of the unsatd. compds. present in the thiophene oil with KMnO<sub>4</sub>. Substitution for KMnO<sub>4</sub> of MnO<sub>2</sub> and H<sub>2</sub>SO<sub>4</sub>, and CrO<sub>3</sub> and AcOH gave a product contg. only 7.35-7.9% S. Ca(OCl)<sub>2</sub> yielded an alkibitol contg. 10% S and up to 4% Cl. The latter was found to be a useful ingredient for dermatological purposes, while the preparation as such was equiv. to the alkibitol prep'd. from ichthyol by treatment with KMnO<sub>4</sub>.







BERKENHEIM, A.M.

"Recherches experimentales dans le domaine de l'application de la theorie electronique dans la chimie des composes organiques". Berkenheim, A. M. et Liwchitz, R.S.(p. 1025)

SO: Journal of General Chemistry (Zhurnal Obshchei Khimii) 1936, Vol. 6, No. 8.

*CO*

The chemistry of antimalarial substances. I. Antimalarial preparations from the viewpoint of the electronic structure of their molecules. A. M. Berkenblit. J. Am. Chem. (U. S. S. R.) 6, 1030-42 (1936); cf. C. A. 28, 5434<sup>a</sup>, and preceding abstr.—Examination of the antimalarial preps. failed to disclose any substantial feature commonly characteristic of the structure of individual preps. in their sp. chemotherapeutic action. The presence of the complex unit of double hydroxyquinoline nucleus could not be characteristic of the antimalarial action of quinine (I), because *Plasmodium* (II) without this group gives a nearly equal therapeutic index. Of the quinoline and MeO groups in I and II, the MeO group can be replaced by alkoxyl (EtO) and OH groups without substantially affecting their antimalarial action. Similarly the NEt<sub>2</sub> group in II can be substituted by other groups, such as an analogous group with 3 C atoms. The antimalarial action of *Atebrine* shows that the presence of the quinoline nucleus also is not essential. Examn. of the electronic formula of I and II and its homologs reveals that the most typical ions in their mols. are the ions C''' connected with the neg. groups —O'H, N''H< and the group —O'C'''H<sub>2</sub>. Obviously, here may be considered those labile points of the mol., which explain, or rather cause, the toxic as well as the antiplasmatic action of a prepn. It may be assumed that the most active group in the I mol. is —C'''H—, connecting the methoxy-quinoline group with the antimalarial complex part of the mol. In III this active group is —C'''—N''H<sup>+</sup>. There are reasons for the supposition that in the organism this group is saponified to the C'''—O'H group, forming

6-methoxy-8-hydroxyquinoline (III), which, probably, is the active substance. III is formed by sapon. of the derivs. of 6-methoxy-8-aminoquinoline (IV), which acts considerably more weakly than III (Fourneau). It is thought that III acts too energetically, producing a toxic effect also. However, in the concns. obtained by the gradual sapon. of IV derivs., such as II and its homologs, a desirable chemotherapeutic index (a relation between the max. tolerated dose and min. therapeutic dose) is obtained. Since the therapeutic action increases with the greater ease of sapon., it can be postulated that all changes in the mol. of the side chain, capable of weakening the bond between the ion C''' and the quinoline nucleus and the ion N''' would increase the therapeutic action. Of primary importance in this is the magnitude of the charge of the first C in the side chain directly bound to the ion N''. Whether this is the ion C''', C'' or C'''-dets., the difference in the degree of the stability of the mol. and in the results of hydrolysis. In the hydrolysis of a compd. with the ion C''', as in II, the N''H<sub>2</sub> group remains in the side chain, giving III and H<sub>2</sub>NCHMe(CH<sub>2</sub>)<sub>2</sub>NH<sub>2</sub>, in that of a compd. with C directly connected with the imine group N''N< a similar though weaker reaction takes place, and finally in that of a compd. with C''' the formation of IV and HOCH-Me(CH<sub>2</sub>)<sub>2</sub>NH<sub>2</sub> may be expected. It is thus evident that a deriv. with an analogous side chain contg. 4 CH<sub>2</sub> groups will show a considerably lower chemotherapeutic index and that with 3 CH<sub>2</sub> groups a greater one. This was confirmed by exptl. evidence. It was found that the ion C''' in the position 6 bearing a MeO group acts similarly to the ion C''' in the position 8. Replacing the MeO by

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an OH group increased the toxicity and correspondingly decreased the therapeutic index. Replacing the MeO by H<sub>2</sub>O group (C'''H—C' H<sub>2</sub>O—), in which the bond probably weaker, resulted in derivs. with lower therapeutic action, because in the hydrolysis a smaller no. of electrons theory of org. compds. is being tested by application of the possibilities of obtaining compds. of equal or even greater chemotherapeutic action with the mol. contg. a combination of active ions as in II and its homologs but devoid of the quinoline nucleus, as in I. Attempts will be made to substitute the quinoline by analogous nuclei of carbazole, indole, isoquinoline, etc., retaining, if possible, the position of active groups in the same order as in II. II. Synthesis of 4-methoxy-2-diaminocarboxylic acid and its diethylaminotrimethylsilyl derivative. A. N. Berkheim and S. I. Lur'e. *Ibid.* 1043-60.—The neg. results in the synthesis of 4-methoxy-2-diaminocarboxylic acid interpreted in part in the light of the electronic isomerism of org. compds. The preliminary results in the prepn. of isomeric derivs. of 7-methoxy-(I) and 7-ethoxy-2-aminocarboxylic acids, contg. the MeO (EO) and NH<sub>2</sub> groups in the different benzene rings of the carbazole, and their condensation with Cl(CH<sub>2</sub>)<sub>2</sub>NH<sub>2</sub> (II) are described. *p*-ClC<sub>6</sub>H<sub>4</sub>CO<sub>2</sub>H, m. 234°, was prepd. in 67% yield from H<sub>2</sub>NCH<sub>2</sub>CO<sub>2</sub>H, m. 234°, by the Sandmeyer reaction. A mixt. of 100 g. acid with 200 g. NaNO<sub>2</sub>, stirred with 450 g. of 100% H<sub>2</sub>SO<sub>4</sub> at 40° for 2 hrs. gave 82% 4,3-C<sub>6</sub>H<sub>4</sub>(NO<sub>2</sub>)CO<sub>2</sub>H (III), m. 178°. III (100 g.) treated with 250 g. HNO<sub>3</sub> (d. 1.5) and 400 g. of concd. H<sub>2</sub>S, at 95-100° for 4 hrs. gave 80% 3,5,4-(O,N)-C<sub>6</sub>H<sub>3</sub>CO<sub>2</sub>H (IV), m. 161-3° (alc.). The condensation of IV with aniline (V) and phenetidine (VI) proceeded smoothly, while that of III only in the presence of catalyst. *o*-Nitro-*p*-ethoxypyridylamine-*p*-carboxylic acid (VII), m. 132-6°, resulted in 50% yield by refluxing 20 g. III in 80 cc. of 95% alc. with 20 g. VI and 0.5 g. Cu shavings in 20 cc. H<sub>2</sub>O. IV (50 g.) in 200 cc. alc. with 50 g.

VI (VI) was refluxed on a water bath for 4 hrs., giving, resp., 81% *o*-nitro-*p*-ethoxy-*p*-diphenylaminocarboxylic acid (VIII), m. 212-13°, and the MeO deriv. (IX), m. 232-4°. The Me ester (X) of VII, m. 132-6°, and Me ester (XI) of IX, m. 158-60°, were obtained in 88% yield by refluxing 20 g. VII (80 g. VIII) with 100 cc. (200 cc.) MeOH and 20 g. (80 g.) of concd. H<sub>2</sub>SO<sub>4</sub>. The selective reduction of the dinitro compds. with NaBH<sub>4</sub> (Ullmann) failed to give pure monoamines. It was, therefore, necessary to reduce the 2 NO<sub>2</sub> groups and in the subsequent conversion to amines to use 1 mol. of NaNO<sub>2</sub> to decompose 1 NH<sub>2</sub> group in the diamines. Ten g. X in 50 g. of 80% AcOH reduced with 8 g. Zn dust at 2-5° gave Me *o*-amino-*p*-ethoxydiphenylamine-*p*-carboxylate (XII), m. 122-5°. Me *o*-diamino-*p*-ethoxydiphenylamine-*p*-carboxylate (XIII), m. 111-13°, resulted in 30-31% yield from 20 g. XI in 100 cc. AcOH and 20 g. Zn dust. Heating 20 g. IX (VIII) with 80 g. of concd. H<sub>2</sub>SO<sub>4</sub> and 40 g. Na in an oil bath at 95-110° for 8 hrs., then diluting the reaction mixt. with H<sub>2</sub>O, treating the filtrate with H<sub>2</sub>S and the filtrate from the SeS dropwise with K<sub>2</sub>CO<sub>3</sub>, gave, resp., 22-18% *o*-diamino-*p*-methoxydiphenylamine-*p*-carboxylic acid (XIV), m. 212-4°, and the EO deriv., m. 212-14°. XIII (3 g.) in 12 cc. of dil. HCl treated with 0.8 g. NaNO<sub>2</sub> in 65 cc. H<sub>2</sub>O gave 90% of the amine of Me *p*-ethoxydiphenylamine-*p*-carboxylate (XV), m. 142-6°. XIII (5 g.) treated with 1.15 g. NaNO<sub>2</sub> in 30 cc. of 100% AcOH gave the amine (XVI) of XII, m. 120-2°. XIV with 1.2 g. NaNO<sub>2</sub> gave 90% of the amine, m. 238-40° (decomp.). This (2 g.) mixed with 10 g. paraffin oil and heated at 350-60° for 18 min. was decompd. with septn. of N and CO<sub>2</sub>, giving 0.2 g. I, m. 222-3°, an amorphous maw sol. in alc., C<sub>6</sub>H<sub>6</sub> and AcOH, poorly sol. in *CHCl*<sub>3</sub> and PhMe. XV and XVI failed to give the corresponding carbazole derivs. Two g. I with 1.5 g. II in 1 cc. alc. was heated at 100° for 25-30 hrs. and then稀释 with H<sub>2</sub>O. The filtrate was treated with a few drops of NH<sub>4</sub>OH and the ppt. extd.

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BC		APPLICATION OF ELECTRONIC THEORY TO ORGANIC CHEMISTRY. IX. MECHANISM OF THE REACTION OF FORMATION OF POLYIMIDES FROM 3-NITROPHENYLAMINE AND 4-NITROBENZOIC ACID. V. P. FURSOV AND M. P. FURSOV		a-3	
		<p>(J. G. K. J. R. 1965, 10, 608-624).—The reaction between 1,4-N<sub>2</sub>O<sub>5</sub> (I) and (NH<sub>2</sub>)<sub>2</sub>SO<sub>3</sub> (II) is shown, on the basis of previous, to proceed thus: (I) + (II) → 1,4-NH<sub>2</sub>-NO<sub>2</sub> (III) + NH<sub>2</sub>NO<sub>2</sub>; (III) + H<sub>2</sub>O → C<sub>6</sub>H<sub>5</sub>-NH<sub>2</sub>NO<sub>2</sub> (IV); (I) + (II) → α-C<sub>6</sub>H<sub>5</sub>-NH<sub>2</sub>NO<sub>2</sub> (V); (IV) + (V) → 1,4-NH<sub>2</sub>-C<sub>6</sub>H<sub>5</sub>-SO<sub>3</sub>NH<sub>2</sub> (VI) + NH<sub>2</sub>HSO<sub>3</sub>. This mechanism is confirmed by the following observations: the yield of (IV) falls from 60% to nil from the 2nd to the 22nd hr. of heating the reaction mixture; over the same period that of (V) rises from 7 to a max. of 80%; thereafter falling at the same rate as that of (VI); rises. Max. production of C<sub>6</sub>H<sub>5</sub>NH<sub>2</sub> takes place between the 12th and 15th hr. of reaction, while (I) and (II) are still present in significant amounts. C<sub>6</sub>H<sub>5</sub>NH<sub>2</sub> is not obtained from α-C<sub>6</sub>H<sub>5</sub>-NO or α-C<sub>6</sub>H<sub>5</sub>-NH-OH and (II) under the conditions of the above reaction. Each of the above constituent reactions was realized experimentally, with the exception of the rearrangement of (IV) to (V).</p> <p style="text-align: right;">R. T.</p>			
ASS-31A METALLURGICAL LITERATURE CLASSIFICATION				EX-2000-1000	
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<p><b>The synthesis of piperylene from furfural. I.</b> A. M. Berkenheim and T. F. Dankova. <i>J. Gen. Chem. (U.S.S.R.)</i>, 22, 31 (1952).—The synthesis of piperylene (1,3-pentadiene) (II) from furfural has been undertaken with the view to use I as starting material in the manuf. of synthetic rubber. To a mixt. of 360 g. tech. furfural, 910 ml. <math>H_2O</math> and 910 ml. 40% <math>HCHO</math>, cooled to 5°, there is added 840 g. 50% NaOH soln. within 20–30 min. The temp. is not allowed to rise above 15–20°. After the NaOH soln. has been added the mixt. is heated for 6 hrs. to 40–45° while stirring, then allowed to stand for 10–18 hrs. and finally extd. with ether. Furfuryl alc. (III), b.p. 81–2°, (yield, 90–1%), is obtained after evapn. of the ether and distn. of the residue <i>in vacuo</i>. II (100 g.) in 130 ml. <math>H_2O</math> + 15 ml. alc. is introduced into 1635 ml. 0.5 N HCl while boiling for 15–20 min. The reaction mixt. is then cooled rapidly, filtered and evapd. <i>in vacuo</i>. Levulinic acid (III) distils at 144–6° and 14 mm. in 42–45% yield. To 30 g. III in 100 g. 10% NaOH/300 g. 4% Na-Hg is added in small portions at 35–40° while stirring. The mixt. is kept overnight and then another portion of 225–300 g. Na-Hg is added under the same conditions. After the reduction is finished, the reaction mixt. is sepd. from Hg, filtered, acidified with concd. <math>H_2SO_4</math> and boiled for 20–30 min. After cooling, the reaction mixt. is extd. repeatedly with ether. The ether soln. is dried, the ether</p>																							
<p>evapd. and the residue distd. <math>\gamma</math>-Valerolactone (IV), b.p. 232–4°, is obtained in 81.5% yield. III may also be reduced to IV electrically, the yield of IV being 61.3%. IV (20 g.) in 30 g. abs. alc. is quickly introduced at 60° into a mixt. of 120 g. xylene and 28 g. Na that has been previously heated to 90°. Then 100 ml. abs. alc. is added, stirring is continued until the Na has dissolved, 40 ml. 50% alc. is added and the mixt. is boiled for 15–20 min. Alc. and xylene are eliminated from the mixt. by means of steam. The residue, after cooling, is satd. with potash and the resulting 1,4-pentanediol (V) extd. with ether. V, b.p. 220–2°, is obtained in 50% yield based on IV. 1,4-Dibromopentane (21 g.), obtained from V on heating with HBr satd. at 0°, is treated slowly at 175–80° with 21 g. PhNMe<sub>2</sub>. The reaction product b.p. 110–20°. The distillate is purified by distn. The bromopentene, b.p. 127–8°, d<sub>4</sub><sup>20</sup> 1.2347, is isolated in 50–60% yield. Monobromopentene (16 g.) is added to 10 g. KOH in 15 g. 90% H<sub>2</sub>O<sub>2</sub> while stirring and heating. 1 distils from the reaction mixt. and b.p. 40.5–1.5°, d<sub>4</sub><sup>20</sup> 0.6904, after purification. The yield is 60%. It yields a tetrabromide, m.p. 114°. The by-product formed is the unsatd. ether <math>C_6H_{10}OBr_2</math>. b.p. 120–3°.</p> <p style="text-align: right;">Gertrude Berend</p>																							
<p>ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION</p> <table border="1"> <tr> <td>SEARCHED</td> <td>INDEXED</td> <td>SERIALIZED</td> <td>FILED</td> <td>SEARCHED</td> <td>INDEXED</td> <td>SERIALIZED</td> <td>FILED</td> </tr> <tr> <td>100-119-0211A</td> <td>100-119-0211C</td> <td></td> <td></td> <td>100-119-0211A</td> <td>100-119-0211C</td> <td></td> <td></td> </tr> </table>								SEARCHED	INDEXED	SERIALIZED	FILED	SEARCHED	INDEXED	SERIALIZED	FILED	100-119-0211A	100-119-0211C			100-119-0211A	100-119-0211C		
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